

BANGALORE UNIVERSITY

DEPARTMENT OF CIVIL ENGINEERING

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JNANA BHARATHI
BANGALORE - 560 056

BUB/CTE/2015-16/

Date: 21-10-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (for 28 days Compressive Strength).

{Project*: Construction of Culvert at Ramachandrappa, Doddabommasandra, Chamundeshwari
Layout and Nanjappa Layout in Ward No.10,(Doddabommasandra)}

Ref.: Letter No. Testing/BUB/ 2015-16, dated 20-10-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranya Sub-Division.
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M₁₅

TABLE 1.1:

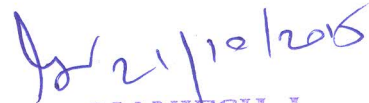
Sl No	Location/ Identification*	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
1	001	22-09-15	20-10-15	28	22500	400	17.77	17.55
	002	"	"	"	"	385	17.11	
	003	"	"	"	"	400	17.77	

*As Furnished by Client.

The Results relate only to the items tested


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BUB/CTE/2015-16/

DATE: 22-10-2015

1. TEST REPORT ON CEMENT CONCRETE CUBES:

Sub: Testing of Concrete Cubes (28 days Compressive Strength)

{Project*: Construction of Culvert at Ramachandrapura, Doddabommasandra, Chamundeshwari
Layout and Nanjappa Layout in Ward No.10, (Doddabommasandra)}

Ref.: Letter No. Testing/BUB/2015-16, dated 22-10-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranyapura Sub-Division.
BBMP, Bangalore.

RESULTS OF COMPRESSIVE STRENGTH ON CEMENT CONCRETE

CUBE SPECIMENS

Dimensions of Specimen : 150 X 150 X 150mm

Grade of Concrete* : M₂₀

TABLE 1.1 :

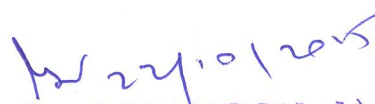
Sl No	Location/ Identification *	Date of Casting*	Date of Testing	Age in Days	C/S Area in Mm ²	Maximum Load in K.N	Compressive Strength (N/ mm ²)	Avg. Value
1	001	24-09-15	22-10-15	28	22500	525	23.33	23.33
	002	"	"	"	"	530	23.55	
	003	"	"	"	"	520	23.11	

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BUB/CTE/2015-16/

Date: 14-09-2015

1. TESTING OF FINE AGGREGATES:

Sub: Testing of Fine Aggregates.

{Project*: Construction of Culvert at Ramachandrapura, Doddabommasandra, Chamundeshwari
Layout and Nanjappa Layout in Ward No.10, (Doddabommasandra)}

Ref.: Letter No. Testing/BUB/2015-16, dated 10-09-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranya Sub-Division.
BBMP, Bangalore.

TABLE - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage Passing	Specification as Per IS: 383-1970(Reaffirmed 2007)			Remarks
		Percentage Passing			
		Zone-I	Zone-II	Zone -III	
04.75	97.20	90-100	90-100	90-100	The Sample Conforms to Grading Zone-II
02.36	84.00	60-95	75-100	85-100	
01.18	76.00	30-70	55-90	75-100	
600. mic	44.00	15-34	35-59	60-79	
300.mic	19.20	5-20	8-30	12-40	
150.mic	3.00	0-10	0-10	0-10	

TABLE 1.2 ;

Sl No	Test Conducted	Sample	Results	Requirements as Per IS. Specification IS :383-1970 (Reaffirmed 2007)
1	Silt Content	001	1.44 %	Not more than 8%
2.	Specific Gravity	----	2.58	-----

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BUB/CTE/2015-16/

Date: 14-09-2015

1. TESTING OF COARSE AGGREGATES (40 mm):

Sub: Testing of Coarse Aggregates.

{Project*: Construction of Culvert at Ramachandrapura, Doddabommasandra, Chamundeshwari
Layout and Nanjappa Layout in Ward No.10, (Doddabommasandra)}

Ref.: Letter No. Testing/BUB/2015-16, dated 10-09-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranyapura Sub-Division.
BBMP, Bangalore.

Table - 1.1 : SIEVE ANALYSIS :

IS Sieve Size, mm	Percentage passing 40 mm Sample	Requirements as per IS 383-1970 (Reaffirmed on 2007) % Passing	
		Single size	Graded
40mm	97.30	85-100	95 - 100
20mm	65.00	0 -20	30- 70
10mm	23.10	0 -5	10- 35
4.75mm	Nil	-----	0 - 5

TABLE 12 :

SL No	Test conducted	Sample No	Results	Requirements as per IS:383-1970 & Test Conforms to IS 2386(Part I to IV) – 1963 (Reaffirmed on 2007)
1.	Flakiness Index	As above	16.30 %	Not to exceed 25 %
2.	Crushing value	----,,----	25.70%	Not to exceed 45 % for concrete other than for wearing surfaces and 30% for concrete for wearing surfaces

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BUB/CTE/2014-15/

Date: 19-09-2015

1. TEST REPORT ON CEMENT:

Sub: Testing of 53 Grade Cement Sample (IS 12269-1987).

{Project*: Construction of Culvert at Ramachandrapura, Doddabommasandra, Chamundeshwari Layout and Nanjappa Layout in Ward No.10, (Doddabommasandra)}

Ref.: Letter No. Testing/BUB/2015-16, dated 10-09-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranyapura Sub-Division.
BBMP, Bangalore.

PHYSICAL TESTS ON CEMENT

Brand* : Birla
 Grade * : 53
 Type * : OPC
 Date : 11-09-2015 to 18-09-2015

SL No	Name of Test	Results	Requirements as per IS 12269-1987
		Cement Sample	
1	Initial setting time	150min	Shall not be less than 30 min
2	Final setting time	260 min	Shall not be more than 600 min
3	Fineness (by dry sieving on IS 90 micron sieve)	2.30%	Not to exceed 10.0%
4	Soundness test(by Le-Chatelier's method)	1.80 mm	Shall not be more than 10 mm
5	Compressive strength		
	a) 3 days (average of three results)	29.30 N/ Sq mm	Shall not be less than 27 N/Sqmm
	b) 7 days (average of three results)	40.60 N/Sq mm	Shall not be less than 37N/Sqmm

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Date: 14-09-2015

1. TEST REPORT ON REINFORCEMENT STEEL :

Sub: Testing of Reinforcement Steel of diameter 10mm.

{Project*: Construction of Culvert at Ramachandrapura, Doddabommasandra, Chamundeshwari Layout and Nanjappa Layout in Ward No.10, (Doddabommasandra)}

Ref.: Letter No. Testing/BUB/2015-16, dated 10-09-2015

Sample supplied to lab by: Sri.R.S.Thyagaraj, Contractor,
Bangalore.

Report required for: Assistant Executive Engineer,
Vidyaranyapura Sub-Division.
BBMP, Bangalore.

TABLE - 1

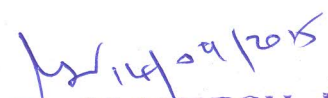
SL No	Details	For 10mm	
		Test Results	Min Req as per IS 1786-2008
01	Observed diameter of bar	10.0mm	10.0mm
02	Observed Wt/m Length Kg/m	0.620	0.567
03	Proof stress/Yield stress, f_y , N/mm^2	554.0	500.0
04	Bend/ Re bend Test	Ok	---
05	Percentage of Elongation, %	20.30	12.00
06	Ultimate Tensile Strength N/mm^2	626.0	545.0

*As furnished by Client.

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